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| Office of General Services Safety Program and Policy Manual |
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SUBJECT: RESPIRATOR PROGRAM

NUMBER:

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Introduction

Your health depends on breathing clean air, but in today's highly industrialized environment, respiratory hazards are a part of life. Respiratory hazards, though usually invisible, are very real and can cause health problems if overexposure occurs. The Office of General Services' Respiratory Protection Program is designed to help protect your health and to keep you breathing safely on the job.

Purpose

The purpose of this program is to reduce employee exposure to occupational dusts, fumes, mists, radio nuclides, gasses and vapors. The primary objective of the program is to prevent excessive exposure to these contaminants.

Policy Statement

The Occupational Safety and Health Administration (OSHA) issued the Respirator Standard, 29 CFR 1910.134. This Department of Labor standard is aimed towards protecting workers from injuries and illnesses due to chemical and particulate exposure. The policy of the South Carolina Office of General Services shall be to protect employees from respiratory hazards through respiratory hazard recognition, monitoring, and the use of engineering controls and respiratory protective equipment. Where feasible, exposure to contaminants will be eliminated by engineering controls (for example: general and local ventilation, enclosure or isolation, and substitution of a less hazardous process or material). When effective engineering controls are not feasible, use of personal respiratory protective equipment may be required. All employees of the Office of General Services who are required to wear respirators, either as part of their routine duties or in a foreseeable emergency, shall be subject to the requirements of this program. The respirator program administrator has full authority to make necessary decisions and purchases to ensure the success of this program.

Summary Statement

Respiratory protection takes team work. The Office of General Services will make every effort to remove respiratory hazards from the air in the workplace. If this is not feasible, the Office will take other measures to protect employees, including providing employees with the proper respirators and training for the job. The employee's role is to be knowledgeable of respiratory hazards and this program and use proper and effective work practices to avoid overexposure of hazardous chemicals. If respirators are necessary, employees must wear them as required, maintain them properly, and advise supervisors of any problems related to their use, such as: discomfort, excessive resistance to breathing, fatigue due to respiratory usage, interference with vision or communication, or restriction of movement.

Types of Respirators

There are four types of Respirators:

- A. **Particulate (dust) Masks** - Particulate masks are air-filtering devices that cover the nose and mouth to trap particles, gasses, and vapors in the air before you can inhale them. These masks are the simplest and most common form of respiratory protection and work only if they fit snugly and are not clogged from overuse. Examples of use would be for employees mowing grass, dusty operations, and even some welding operations. Employees required to wear a particulate (dust) mask must meet all requirements of the Respiratory Protection Program. Employees who wish to use a dust mask for their own comfort are allowed to do so and do not require a medical evaluation.
- B. **Half Masks** - Half mask respirators generally have cartridges and are air purifying devices that cover the nose, mouth and chin. Half masks have cartridges that capture harmful gases and vapors from the air while allowing oxygen to flow through. Each cartridge is made for a specific gas or vapor hazard. A prefilter may be attached to the cartridge to trap dusts, fumes, and mists. Examples of use would be spray painting or working with pesticides.
- C.
- D. **Full face** - Full face respirators are similar to half mask respirators with the addition of a full facepiece to protect the eyes and face. These masks fit snugly around your face, with a canister or cartridge to filter out harmful gas and vapor hazards from the air. (This type of respirator is not used by employees at the Office of General Services.)
- E. **Supplied - Air** - Supplied - Air respirators provide the greatest protection against respiratory hazards. Air-Line Respirators use a hose to connect your mask to a stationary clean air source. Self-Contained Respirators allow you to carry your own supply of clean air. Example of use would be for rescue in a

confined space or sand blasting. (This type of respirator is not used by employees at the Office of General Services.)

Selection of Respirator (Procedures for selecting respirators for use in the workplace)

Team Leaders, Supervisors and Safety Support staff will assist in the selection of respirators. Respirators to be used must be approved by the employee's supervisor. Any questions concerning selection should be referred to Safety Support. The Program Administrator is Holly Bockow, Safety Support (737-2311). Ms. Bockow is qualified by appropriate training and experience with the complexity of the program to administer the respiratory protection program and conduct the required evaluations of program effectiveness.

Different respirators provide different levels of protection. The necessity for and selection of a respirator will be based on the following criteria:

A. The nature of the hazard. Identified Respiratory Hazards at the Office of General Services:

1. Using epoxies, glues or paint products in enclosed areas
2. Sanding or grinding on metals with high lead content
3. Horticulture use/ pesticides, herbicides or other chemicals which are sprayed into the air
4. Dust
5. Abrasive blasting (**sand blasting) [****not in use at this time**]
6. Any other hazard which causes concern should be reported to Safety Support

These activities may require the use of appropriate respiratory protective equipment. The supervisor should contact Safety Support to have employee exposure monitored to determine whether a respirator is required. A copy of any monitoring reports shall reside with the Safety Support office. Supervisors should be alert for other operations which may require respiratory protection. If such operations are found, the supervisor should contact Safety Support.

Medical Fitness (Medical evaluations of employees required to use respirators):

Employees shall not be assigned to operations or areas where respirators are required unless it has been determined that they are physically able to wear a respirator and perform the work.

Medical personnel with knowledge of pulmonary diseases and respiratory protection practices shall examine each employee assigned to use a respirator and determine what medical factors are pertinent, what tests will be performed, and ultimately whether or not an employee may wear a respiratory protection device. The medical evaluation must be performed by a physician or other licensed

healthcare provider (abbreviated in the standard and in this document at PLHCP). Other licensed healthcare providers, PLHCP, include nurse practitioners, physician assistants, occupational health nurses, and registered nurses. These non-physician healthcare professionals are permitted to conduct medical evaluations for respirator wearers if their state license, registration, or certification permits them to do so.

The only exception to the medical evaluation requirement is for employees who voluntarily wear filtering facepieces (dust masks). These employees do not have to be medically evaluated.

Safety Support will select which medical professional to use. First, a medical questionnaire (see Appendix C) will be given to the employee. The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. To maintain confidentiality, the employee will be given the medical questionnaire with instructions that he must not share his answers with his / her employer or his / her supervisor. There will be instructions about how to deliver or send it to the health care professional who will review it on the envelope. The employee will be asked to send the envelope personally to insure confidentiality. Each organizational unit (team) will be responsible for payment of physician's fees. No fees will be paid by the employee.

Once the medical evaluation reports are received, one copy will be given to the employee and one copy will be retained by the medical professional.

Any employee who gives a positive response to any question among questions 1 through 8; Section 2, Part A of Appendix C from the Standard, or whose initial medical examination demonstrates the need for a follow-up medical examination shall either be relieved of the duty to wear a respirator or shall be given a follow up medical examination. This determination will be made by the Supervisor. The follow up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

The employee will have an opportunity to discuss the questionnaire and examination results with the PLHCP.

The following information will be submitted, along with a copy of the written respiratory protection program and a copy of 29 CFR 1910.134 (e)(5) to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

- a. The type and weight of the respirator to be used by the employee;
- b. The duration and frequency of respirator use (including use for rescue and escape);

- c. The expected physical work effort;
- d. Additional protective clothing and equipment to be worn; and
- e. Temperature and humidity extremes that may be encountered.

The respirator user's medical status should be reviewed periodically (for instance, annually) by the immediate supervisor. If the supervisor suspects there has been a change in the medical status of the employee since the last medical review or if the use of respirators has been significantly changed, an additional medical evaluation by a medical professional may be necessary. A reevaluation will be necessary if any of the following conditions exist:

- a. An employee reports medical signs or symptoms that are related to ability to use a respirator;
- b. A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;
- c. Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
- d. A change occurs in workplace condition (e.g. physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

Fit testing procedures for tight-fitting respirators

Before any employee may be required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used.

1. Employees shall use a tight-fitting face piece respirator must pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) as described in 29 CFR 1910.134(f) (2).
2. Employees using a tight-fitting face piece respirator must be fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.
3. Employees shall be given an additional fit test whenever the employee reports or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition which could affect respirator fit. Such conditions include, but are not limited to , facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.
4. If, after passing a QLFT or ANFT, the employee subsequently notifies the employer, program administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be re-tested.

5. The fit test shall be administered using an OSHA - accepted QLFT or QNFT protocol. The OSHA - accepted QLFT and QNFT protocols and procedures are contained in Appendix A of 29 CFR 1910.134(f) (6).
6. ALFT may only be used to fit test negative pressure air - purifying respirators that must achieve a fit factor of 100 or less.
7. If the fit factor, as determined through an OSHA - accepted ANFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight - fitting full face pieces, the QNFT has been passed with that respirator.
8. Fit testing of tight - fitting atmosphere - supplying respirators and tight - fitting powered air - purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection. (per 29 CFR 1910.134 (f) (8)(i ii, iii))

Training (Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations)

- A. To insure the safe use of respirators, it is required that all respirator users be properly instructed in the selection, use, and maintenance of respirator. Training shall provide an opportunity for employees to handle the respirator, have it fitted properly, test its seal, wear it in normal air to become familiar with it, wear it in a test atmosphere, and finally inspect, clean, and maintain the respirator.
- B. Every respirator wearer shall receive fitting instruction including demonstration and practice on how the respirator should work, how to adjust it, and how to determine if it fits properly, based on the qualifications and instructions listed in CFR 1910.134 PPENDIX A FIT TESTING PROCEDURES (Mandatory). Following this instruction, each respirator wearer will be fit tested to insure that a proper seal is achieved.
- C. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on eye glasses. Contact lenses shall not be worn while using a respirator.
- D. To assure proper protection, the facepiece fit should be checked by the wearer each time the respirator is worn. This may be done by following the manufacturer's facepiece fitting instructions.

- E. Respirators must be worn correctly and workers who wear head covering must wear it over respirator straps.**
- F. Workers must keep respirators on all the time they are in the work area.**
- G. Training will be conducted by the program administrator, Holly Bockow.**

Training Documentation:

- 1. Training Roster Form - Upon completion of the training program, employees will sign a form acknowledging their attendance. The Program Administrator, Holly Bockow, Safety Support, will keep one copy of the Training Roster Form and provide the employee's supervisor with a copy.**
- 2. No employee is allowed to wear a respirator unless he has completed the Respirator Training Program and has signed a Training Roster acknowledging this training.**

Inspection and Maintenance (Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators)

All respirators shall be regularly inspected, cleaned, and stored in a convenient location after each use.

A. Inspection Procedure:

Before each use, the respirator will be inspected by the wearer for the following:

- 1. Check for worn or frayed straps.**
- 2. Look for wear or damage on the seal of the facepiece.**
- 3. Be sure any screws are tight.**
- 4. Check rubber and plastic parts for flexibility.**
- 5. Valves should be clean and seated perfectly.**
- 6. Be sure filters and cartridges are the right kind for the atmosphere in which work is to be done. The Respirator Selection Chart (at the end of the Program) will match correct filters and cartridges to the work to be performed.**
- 7. The face shield, if provided, should be clean and in good condition.**
- 8. If using an air line or self-contained breathing apparatus respirators, check the air supply and warning alarm.**

B. Cleaning Procedure:

Each employee should clean his own respirator. Employees must leave the respirator use area to wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use, if they detect vapor or gas breakthrough, changes in breathing resistance or leakage of the face piece. Employees who experience trouble with respirators shall bring the problem to the attention to the employer, supervisor or program administrator and they will replace or repair the respirator before allowing the employee to return to the work area.

When cleaning respirators, employees shall remove filters, cartridges, valve assemblies, and any other detachable parts. Employees shall clean and dry each part of the respirator and inspect it carefully to be sure it is in good condition before reassembling.

Employees shall follow the manufacturer's instructions for cleaning and disinfecting the respirator. Generally, a mild detergent and soft brush are used for cleaning. Rinse the respirator thoroughly in clean, warm water. Rinsing is extremely important because a residue of the cleaning agent can damage the respirator and cause skin irritation the next time the respirator is worn.

Be sure that all parts are thoroughly dried before reassembling the respirator. Use a soft, lint-free cloth to absorb most of the water. A fan may be used to speed up the drying process.

C. Storage Procedure:

When storing a respirator, even overnight, first flex the rubber parts to make sure they are not twisted or bent. Seal the respirator in a plastic bag and store it where it will be protected from the following elements.:

- 1. Dust**
- 2. Sunlight**
- 3. Extreme Heat**
- 4. Extreme Cold**
- 5. Moisture**
- 6. Damaging Chemicals**
- 7. Physical Damage**

The respirator should be placed in the storage area in such a way that no part of it will be stretched, bent, or compressed. Do not put anything on top

of it that will affect its shape. Respirators stored incorrectly can easily become distorted and develop leaks. Storage of respirators in lockers and tool boxes is permitted only if the respirator is in a carrying case or carton.

Qualified individuals (persons trained in respirator usage) shall insure that respirators are inspected before and after each use and during cleaning.

Emergency Use Respirators:

“Emergency Use” respiratory protective equipment shall be inspected at least monthly (in addition to each use). SCBA incorporating breathing gas containers are inspected weekly for breathing gas pressure. Records of the inspections of “emergency use” respiratory protective equipment are kept at the site of the equipment.

Repair:

All repairs to respirator equipment are made by the manufacturer of the respirators or by manufacturer-trained individuals.

Special Use Conditions:

Procedures are not developed for respiratory protective equipment usage in atmospheres immediately dangerous to life or health because our program calls for the Fire Department to be called in an IDLH emergency. No OGS employee will be trained for this type of emergency.

End of Program

OSHA RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee: Can you read (circle one):

Yes / No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1 (Mandatory)

The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex (circle one) Male / Female
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. A phone number where you can be reached by the healthcare professional who reviews this questionnaire (include the area code). _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes / No
11. Check the type of respirator you will use (you can check more than one category):
 - a. _____ N, R, or P disposable respirator (filter - mask, non - cartridge type only).
 - b. _____ Other type (for example, half- or full-facepiece type, powered - air purifying, supplied - air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes / No
If "yes," what type (s) ? _____

Part A. Section 2 (Mandatory)

Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

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| 1. Do you smoke tobacco, or have you smoked tobacco in the last month: | Yes / No |
| 2. Have you ever had any of the following conditions? | Yes / No |
| a. Seizures (fits): | Yes / No |
| b. Diabetes (sugar disease) : | Yes / No |
| c. Allergic reactions that interfere with your breathing: | Yes / No |
| d. Claustrophobia (fear of closed - in places): | Yes / No |
| e. Trouble smelling odors: | Yes / No |
| 3. Have you ever had any of the following pulmonary or lung problems? | |
| a. Asbestosis: | Yes / No |
| b. Asthma: | Yes / No |
| c. Chronic bronchitis: | Yes / No |
| d. Emphysema: | Yes / No |

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| e. Pneumonia: | Yes / No |
| f. Tuberculosis: | Yes / No |
| g. Silicosis: | Yes / No |
| h. Pneumothorx (collapsed lung): | Yes / No |
| i. Lung cancer: | Yes / No |
| j. Broken ribs: | Yes / No |
| k. Any chest injuries or surgeries: | Yes / No |
| l. Any other lung problem that you've been told about: | Yes / No |

Do you currently have any of the following symptoms of pulmonary or lung illness?

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| a. Shortness of breath: | Yes / No |
| b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: | Yes / No |
| c. Shortness of breath when walking with other people at an ordinary pace on level ground: | Yes / No |
| d. Have to stop for breath when walking at your own pace on level ground: | Yes / No |
| e. Shortness of breath when washing or dressing yourself: | Yes / No |
| f. Shortness of breath that interferes with your job: | Yes / No |
| g. Coughing that produces phlegm (thick sputum): | Yes / No |
| h. Coughing that wakes you early in the morning: | Yes / No |
| i. Coughing that occurs mostly when you are lying down: | Yes / No |
| j. Coughing up blood in the last month: | Yes / No |
| k. Wheezing: | Yes / No |
| l. Wheezing that interferes with your job: | Yes / No |
| m. Chest pain when you breathe deeply: | Yes / No |
| n. Any other symptoms that you think may be related to lung problems: | Yes / No |

5. Have you ever had any of the following cardiovascular or heart problems?

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| a. Heart attack: | Yes / No |
| b. Stroke: | Yes / No |
| c. Angina: | Yes / No |
| d. Heart failure: | Yes / No |
| e. Swelling in your legs or feet (not caused by walking): | Yes / No |
| f. Heart arrhythmia (heart beating irregularly): | Yes / No |
| g. High blood pressure: | Yes / No |
| h. Any other heart problem that you've been told about: | Yes / No |

6. Have you ever had any of the following cardiovascular or heart symptoms?

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| a. Frequent pain or tightness in your chest: | Yes / No |
| b. Pain or tightness in your chest during physical activity: | Yes / No |
| c. Pain or tightness in your chest that interferes with your job: | Yes / No |
| d. In the past two years, have you noticed your heart skipping or missing a beat: | Yes / No |
| e. Heartburn or indigestion that is not related to eating: | Yes / No |
| f. Any other symptoms that you think may be related to heart or circulation problems: | Yes / No |

7. Do you currently take medication for any of the following problems?

- a. Breathing or lung problems: Yes / No
 - b. Heart trouble: Yes / No
 - c. Blood pressure: Yes / No
 - d. Seizures (fits): Yes / No
8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9)

- a. Eye irritation: Yes / No
- b. Skin allergies or rashes: Yes / No
- c. Anxiety: Yes / No
- d. General weakness or fatigue: Yes / No
- e. Any other problem that interferes with your use of a respirator: Yes / No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently): Yes / No
11. Do you currently have any of the following vision problems?
- a. Wear contact lenses: Yes / No
 - b. Wear glasses: Yes / No
 - c. Color blind: Yes / No
 - d. Any other eye or vision problem: Yes / No
12. Have you ever had an injury to your ears, including a broken ear drum: Yes / No
13. Do you currently have any of the following hearing problems?
- a. Difficulty hearing: Yes / No
 - b. Wear a hearing aid: Yes / No
 - c. An other hearing or ear problem: Yes / No
14. Have you ever had a back injury: Yes / No
15. Do you currently have any of the following musculoskeletal problems?
- a. Weakness in any of your arms, hands, legs, or feet: Yes / No
 - b. Back pain: Yes / No
 - c. Difficulty fully moving your arms and legs: Yes / No
 - d. Pain or stiffness when you lean forward or backward at the waist: Yes / No
 - e. Difficulty fully moving your head up or down: Yes / No
 - f. Difficulty fully moving your head side to side: Yes / No
 - g. Difficulty bending at your knees: Yes / No
 - h. Difficulty squatting to the ground: Yes / No
 - i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes / No
 - i. Any other muscle or skeletal problem that interferes with using a respirator: Yes / No

Part B

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.